

What is claimed is:

- 5 1. A biosensor strip comprising:
- (a) an electrode support;
- (b) a first electrode disposed on said electrode support, said first
electrode being a working electrode, said working electrode comprising a working
ink deposited on an electrically conductive material;
- 10 (c) a second electrode disposed on said electrode support, said
second electrode being a reference electrode; and
- (d) a third electrode disposed on said electrode support, said third
electrode being a counter electrode, said counter electrode comprising an
electrically conductive material.
- 15 2. The biosensor strip of claim 1, wherein said reference electrode
comprises a reference ink.
3. The biosensor strip of claim 1, wherein said reference electrode
comprises a conductive material.
- 20 4. The biosensor strip of claim 3, wherein said reference electrode
further comprises a working ink deposited on said conductive material.
5. The biosensor strip of claim 1, wherein said working ink comprises
- 25 an enzyme and a mediator.
6. The biosensor strip of claim 5 wherein said enzyme is selected from
the group consisting of glucose oxidase and glucose dehydrogenase.
- 30 7. The biosensor strip of claim 5, wherein said mediator is a
ferricyanide salt.

8. The biosensor strip of claim 5, wherein said mediator is ferrocene or a derivative thereof.

9. The biosensor strip of claim 5, wherein said mediator is a phenanthroline quinone or a derivative thereof.

10. The biosensor strip of claim 1, further comprising a covering layer defining an enclosed space over said electrodes, said covering layer having an aperture for receiving a sample into said enclosed space.

11. The biosensor strip of claim 10, further comprising a least one layer of mesh interposed in the enclosed space between said covering layer and said electrodes.

12. The biosensor strip of claim 1, wherein said counter electrode is positioned relative to said working electrode and said reference electrode such that a liquid sample will contact said working electrode and said reference electrode prior to contacting said counter electrode.

13. A method for determining the concentration of an analyte in a sample of biological fluid, said method comprising the steps of:

- (a) providing the biosensor strip of claim 1;
- (b) applying said biological fluid to said biosensor strip;
- (c) inserting said biosensor strip into an analyte monitor;
- (d) applying a voltage at the working electrode with respect to the reference electrode;
- (e) measuring the current flowing between the working electrode and the counter electrode; and
- (f) correlating the current measured to the concentration of said analyte.

14. A biosensor strip comprising:

(a) an electrode support;

(b) a cover layer;

(c) a spacer layer interposed between said electrode support and said

5 cover layer;

(b) a first electrode, said first electrode being a working electrode, said working electrode comprising working ink deposited on an electrically conductive material;

(c) a second electrode, said second electrode being a reference

10 electrode;

and

(d) a third electrode, said third electrode being a counter electrode, said counter electrode comprising an electrically conductive material, said electrode-bearing major surface of said first electrode support facing said electrode-bearing

15 surface of said second electrode support.

15. The biosensor strip of claim 14, wherein said reference electrode comprises a reference ink.

20 16. The biosensor strip of claim 14, wherein said reference electrode comprises a conductive material.

17. The biosensor strip of claim 16, wherein said reference electrode further comprises a working ink deposited on said conductive material.

25

18. The biosensor strip of claim 14, wherein said working ink comprises an enzyme and a mediator.

19. The biosensor strip of claim 18, wherein said enzyme is selected
30 from the group consisting of glucose oxidase and glucose dehydrogenase.

20. The biosensor strip of claim 18, wherein said mediator is a ferricyanide salt.

21. The biosensor strip of claim 18, wherein said mediator is ferrocene
5 or a derivative thereof.

22. The biosensor strip of claim 18, wherein said mediator is a phenanthroline quinone or a derivative thereof.

10 23. The biosensor strip of claim 14, wherein said spacer layer comprises an adhesive.

24. The biosensor strip of claim 23, wherein said adhesive is a pressure sensitive adhesive.

15 25. The biosensor strip of claim 14, wherein at least one of said three electrodes is disposed on said electrode support and at least one of said remaining two electrodes is disposed on said cover layer.

20 26. The biosensor strip of claim 14, wherein said counter electrode is positioned relative to said working electrode and said reference electrode such that a liquid sample will contact said working electrode and said reference electrode prior to contacting said counter electrode.

25 27. A method for determining the concentration of an analyte in a sample of biological fluid, said method comprising the steps of:

- (a) providing the biosensor strip of claim 14;
- (b) applying said biological fluid to said biosensor strip;
- 30 (c) inserting said biosensor strip into an analyte monitor;
- (d) applying a voltage at the working electrode with respect to the reference electrode;

(e) measuring the current flowing between the working electrode and the counter electrode; and

(f) correlating the current measured to the concentration of said analyte.

5

2020-07-20 10:00:00